PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant:	Chapoulaud et al.
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SECOND DECLARATION OF JOSEPH R. JORDAN UNDER RULE 131 (37 CFR 1.131)

In support of the response to the Office Action dated October 18, 2006, the Declarant, Joseph R. Jordan, states:

1. The provisional application filed December 29, 1999, to which the present application claims priority, contains a number of figures that are copies of prints made from photographic slides that were in my possession prior to October 4, 1999, the filing date of first parent U.S. utility patent application to which Lehmann et al. U.S. Patent No. 6,575,751 claims priority.

2. Color prints of the slides referred to in paragraph 1 above were included as Figures 3A, 3B, 4, 4B, 4C, 5, 5A, 5B, 5C, 5D, 5E, 6, 6A, 6B, 7, 7A, 7B, 7C and 7D of the provisional application. Of these, color copies were included as correspondingly numbered figures Figures 3A, 3B, 4, 4B, 4C, 5, 5A, 5B, 5C and 5D in application PCT/US00/35558, which claimed priority to the provisional application, and of which the present utility application is a continuation. Color copies of Figures 6, 6A, 6B and 7D of the provisional application were renumbered and respectively included as Figures 5E, 5F, 5G and 6B of the PCT application. Grey scale copies of the figures of the PCT application became drawings of this utility application. The color and grey scale images shown in these drawings are copies of the slides, with numbers and other labels added in black under my direction to identify elements described in the specification of the provisional application or of the PCT application. These drawings were also visually enhanced for clarity in the PCT application and this utility application.

3. The slides referred to in paragraph 1 above were copies that I ordered of original slides viewed by me at the offices, in Glendora, California, of Ormco Corporation, applicants' assignee, prior to November 3, 1998, the filing date of provisional application serial no. 60/106,920, of which Lehman et al. U.S. Patent No. 6,575,751 claims the benefit, and prior to October 8, 1998, the filing date of the abandoned parent U.S. utility patent application to which Chishti et al. U.S. Patent Application Publication No. 2001/0002310 claims priority. The Chishti et al. published application has been called to the Examiner's attention by applicant.

4. At the time I viewed the original slides referred to in paragraph 3 above, I viewed displayed images on the screen of a computer of Eric Chapoulaud in the laboratory of Ormco Corporation in Glendora, California. Those displayed images included the images essentially as depicted in the original slides.

5. When viewing the displayed images referred to in paragraph 4, Eric Chapoulaud interactively operated the computer and demonstrated to me the software for designing a custom orthodontic appliance for repositioning the teeth of a patient in the computer as images including those corresponding to the original slides were displayed on the computer display. This demonstration covered a process that included the display of images, including images corresponding to those shown in Figs. 5 and 5A of the present application, on the screen of his computer generated from a file of three dimensional information of the shapes of the teeth of a patient from digital data files produced by a laser scanner. Eric interacted with these images on his computer screen to produce, with the assistance of software in his computer, images of the patient's teeth in suggested positions and orientations. These suggested positions and orientations, which were referred to as the calculated set-up of the teeth, were displayed on Eric's computer screen as images including images corresponding to Figs. 5B, 5C and 5D of the present application. These positions and orientations of the teeth, as displayed, satisfied all the criteria described in the present patent application of positions and orientations to which the teeth of that patient would be moved following treatment by a custom orthodontic appliance that software in the computer would design to be provided for the patient. Then the process continued with the software producing a design of a custom orthodontic appliance, as illustrated in Fig. 5E, 5F and 5G of the present application, specifically configured to reposition the teeth of the patient to the tooth positions and orientations that were interactively produced by Eric in operating the computer. This is the process described by me in drafting the specification of the present patent application.

6. Dr. Craig Andreiko participated in the demonstration referred to in paragraph 5 above by explaining the steps of the process. The explanation of Dr. Andreiko included the viewing by Dr. Andreiko and me of the images displayed on a computer screen, including the screen image depicted in Fig. 5C of the present application. Through a keyboard and mouse attached to the computer, Dr. Andreiko interacted with the viewed image to feed back information to the computer before the design of the custom orthodontic appliance. Fig. 5C was referred to as the "Setup" screen, which initially displayed the teeth of the patient in their suggested post treatment tooth positions and orientations, referred to in paragraph 5 above, in windows 71-75 of Fig. 5C. Dr. Andreiko demonstrated the interactive entry of feedback information by selecting, with the mouse, one of the twenty-eight teeth of the patient by way of the controls 76 in the image of Fig. 5C. He then selected one of the torque, tip or rotation control buttons to designate a tooth orientation angle to be changed, and then adjusted the slide or scroll bar control 76a to change the value of the selected angle for the selected tooth. He specifically demonstrated the changing of the torque angle for a selected tooth. As he made the changes, the image of the tooth moved on the computer screen. Then, by clicking the "calculate setup" button 77, Dr. Andreiko caused the computer to recalculate the post-treatment positions and orientations, that is, to calculate revised post-treatment positions and orientations, of the teeth. By doing so, recalculated positions and orientations were thereupon displayed on the computer screen in the form of revised images in the windows 71-75 shown in Fig. 5C.

7. The explanation of Dr. Andreiko referred to in paragraph 6 included the entry of feedback information into the computer for accepting whatever post-treatment positions and orientations of the teeth were displayed in windows 71-75 and the causing of the computer to launch the design of the custom appliance. This demonstration involved clicking the "terminate setup" button on the screen of Fig. 5C, which caused the computer to display a screen such as shown in Fig. 5E showing a designed custom orthodontic appliance on the images of the teeth in their original or changed setup positions and orientations. His explanation included a description and accompanying demonstration of how a treating orthodontic practitioner would approve or change the target treatment positions and orientations of the teeth displayed on the computer screen, which description I included in the present patent application.

8. Prior to October 8, 1998, I saw actual orthodontic brackets, archwires and bracket placement jigs, as well as intermediate partially manufactured appliances and tools and the forms for making the appliances that are depicted in these figures. Note that Figure 7C depicts a block of material in which are formed an entire set of custom placement jigs and on which is marked the date of June 11, 1997. At the time I attended the demonstration referred to in paragraphs 5-7 above, I witnessed the operation of bracket, jig and archwire manufacturing equipment that produced appliances in response to the output of Eric's computer, and I saw completed custom orthodontic appliances mounted on plaster models of a patient's dental arches with the model teeth thereof arranged in post treatment positions produced by the appliance.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Joseph R. Jordan

Date 3/28/2007